

MIL-B-15071A(SHIPS)  
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~~SUPERSEDING~~  
MIL-B-15071(SHIPS)  
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INTERIM MILITARY SPECIFICATION  
BOOK, INSTRUCTION, PREPARATION, CONTENTS  
AND APPROVAL

1. SCOPE

1.1 Scope. - This specification covers instruction book requirements for electrical and mechanical equipment.

1.2 Classification. - Instruction books shall be of the following types as specified (see 6. 1):

- Type A - (Type A instruction books may be required where the system or equipment to be described is of a highly specialized or extremely complex nature, and where the importance of the equipment justifies unusual effort in the preparation of the instruction book.) (See 3. 2.)
- Type B - (Type B instruction books are required where the equipment or system to be described has no direct commercial counterpart or which is sufficiently complex that a detailed description, and maintenance instructions are required and must be supplemented by sufficient photographs, drawings, parts lists, etc.) (See 3. 4.)
- Type C - (Type C instruction books are required where the equipment or system to be described is an adaptation or variation of conventional commercial equipment, where with certain modifications and additional data, the type of instructional matter normally furnished will serve the purpose.) (See 3. 5.)
- Type D - (Type D instruction books are required where the equipment or system to be described is generally the same as equivalent commercial equipment, or is sufficiently simple that standard manufacturer's instruction pamphlets and service data are adequate.) (See 3. 6.)

2. APPLICABLE SPECIFICATIONS, STANDARDS, DRAWINGS, AND PUBLICATIONS

2.1 The following specifications, standards, drawings, and publications, of the issue in effect on date of invitation for bids, form a part of this specification:

SPECIFICATIONS

FEDERAL

- NN-B-591 - Boxes, Fiberboard, Wood-Cleated (for Domestic Shipment).
- NN-B-601 - Boxes, Wood-Cleated-Plywood, for Domestic Shipment.
- NN-B-621 - Boxes, Wood, Nailed and Lock-Corner.
- QQ-S-781 - Strapping, Flat; Steel.
- UU-P-268 - Paper, Kraft, Wrapping.
- UU-T-111 - Tape; Paper, Gummed (Sealing and Securing).
- LLL-B-631 - Boxes, Fiber Corrugated (for Domestic Shipment).
- LLL-B-636 - Boxes, Fiber, Solid (for Domestic Shipment).

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### 3.3 General requirements for types B, C, and D instruction books. -

3.3.1 Identification. - All books shall be identified by a Navy identification number of the form NAVSHIPS 362-1023" (see figures 1 and 2). This number will be assigned by the bureau or agency concerned upon receipt of the copy submitted for bureau or agency approval. In urgent cases, this number may be obtained by a written request, containing complete descriptive data of the equipment. This number shall be imprinted on the upper left-hand corner of the cover and upper-right hand corner of the fly-leaf of all books prior to distribution.

3.3.2 Copyright. - Instruction books shall not be copyrighted. The bureau or agency concerned reserves the right to reproduce or have reproduced in part or in entirety all instruction books procured under this specification.

3.3.3 Security classification. - Unless otherwise specified in the contract or order, instruction books shall be unclassified. If restricted, confidential or secret, notification of this classification and the words "Security Information" shall appear on the front and back covers and each page of the books as shown on figures 1 to 5, inclusive. In addition, classified books shall have the following paragraph printed on the title page as shown on figure 2:

"WARNING: This document contains information affecting the national defense of the United States within the meaning of the Espionage Laws, Title 18, U.S.C., Sections 793 and 794. The transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law."

Confidential and secret instruction books shall be marked with consecutive serial numbers beginning with number 1. Classified instruction books shall be prepared in accordance with the Navy Handbook Security Measures for the Protection of Classified Printed Matter During Production (NAVEXOS P-29). Particular care shall be exercised to insure the security of classified matter during the preparation. Receipt cards shall be provided in all confidential and secret books. Each card shall contain the serial number of the book in which it is included.

3.3.4 Revision to incorporate changes. - The contractor will be required to furnish new, revised, or supplementary pages until the guarantee period expires. The quantity of pages furnished and the distribution shall be the same as for the instruction books provided in the original contract or order.

3.3.4.1 New pages. - When it is found necessary to include new information to augment the instruction book data, new pages shall be issued. These pages shall be identified with the following legend placed in the bottom outside corner, beside the page number and toward the binding edge of each page; on the first line, the word "New" followed by the NAVSHIPS identification number, and on the second line the month and year of issue. New pages shall bear the same number as the instruction book page they follow with the addition of a letter; for example, original page 69, new pages 69a and 69b.

3.3.4.2 Revised pages. - If it is determined that information originally furnished in instruction books must be changed for clarification, correction, or because every equipment covered by the instruction book has been uniformly modified, revised pages shall be issued. These pages shall be identified with the following legend placed in the bottom outside corner, beside the page number and toward the binding edge of each page; on the first line, the word "Revised" followed by the NAVSHIPS identification number, and on the second line the month and year of issue. Revised pages shall bear the same number as the page they replace.

3.3.4.3 Supplementary pages. - In instances where modifications are made only to a certain number of the total number of equipments covered by the instruction book, resulting in the need for alternate instructions to cover those items modified, this information shall be issued in the form of supplementary pages. These pages shall be identified with the following legend placed in the bottom outside corner, beside the page number and toward the binding edge of each page; on the first line, the word "Supplementary" followed by the NAVSHIPS identification number on succeeding lines the hull numbers of the specific ships to which the page applies, and on the last line the month and year of issue. Supplementary pages shall bear the same number as the instruction book page they follow with the addition of a letter; for example, original page 69, supplementary pages 69a, 69b.

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3.3.5 Time of delivery. - Unless otherwise specified in the contract or order, two copies of the instruction books shall be delivered with the first unit and each succeeding unit of equipment shipped. If final instruction books are not available at the time of delivery of the equipment, two copies of an adequate preliminary instruction book (see 3.3.6) shall be furnished to the Government inspector for shipment with each unit.

3.3.6 Preliminary instruction books. -

3.3.6.1 Method of approval. - Prior to the printing of the final instruction books, a preliminary instruction book shall be prepared and submitted in duplicate to the bureau or agency concerned via the Government inspector for approval and assignment of a Navy NAVSHIPS identification number. Every effort shall be made to submit the preliminary book in ample time to permit approval and final printing prior to the delivery date of the equipment. Preliminary books shall be furnished in instances where final books are not available for delivery with the equipment. In all instances where preliminary books are furnished in lieu of final books, they shall be replaced with final books within 60 days (see 3.3.5 and 3.3.6.2.3).

3.3.6.2 Contents. -

3.3.6.2.1 Text. - Preliminary instruction books shall consist of a complete text of the instructions required for the type of book to be furnished.

3.3.6.2.2 Illustrations. - Preliminary instruction books shall contain a list of all illustrations (photographs, exploded views, drawings, and sketches) and sample art work (less photos and drawings but including all exploded views and sketches) which will appear in the final books. If the final book is to include test data, or a table of weights, for example, and if any or all of the items are not available when the preliminary book is issued, then a foreword shall list all items which have been omitted and which will appear in the final book.

3.3.6.2.3 Book identification. - In all instances where preliminary books are furnished in lieu of final books, the NAVSHIPS identification number shall be stamped on all copies of the preliminary books prior to distribution (see 3.3.1).

3.3.6.2.4 Covers. - Covers for preliminary books shall be at least 20 by 26-65/500-basis gray antique finish cover stock or similar material, bellows fold, with the title and other pertinent information on the cover. This information shall be identical with that which will appear on the final book except that the word "preliminary" shall appear directly in front of the identification number (see 3.3.1).

3.3.6.2.5 Printing. - The text may be printed by any quick, economical method, such as multigraph, mimeograph or similar method.

3.4 Type B instruction books. -

3.4.1 Contents. - Type B instruction books shall contain the following information as applicable, presented in a logical arrangement (see figures 1 to 9, inclusive):

- (a) Title page (see figure 2).
- (b) General data (see 3.4.1.1).
- (c) Table of contents, listing all divisions and primary and secondary subdivisions (such as chapters, sections) with the corresponding page numbers.
- (d) List of illustrations and drawings, specifying titles, figure numbers and pages on which such illustrations appear.
- (e) Introduction (see 3.4.1.2).
- (f) Detailed description (see 3.4.1.3).
- (g) Installation instructions (see 3.4.1.4).
- (h) Adjustments and tests (see 3.4.1.5).
- (i) Principles of operations (see 3.4.1.6).

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- (j) Operating instructions (see 3. 4. 1. 7).
- (k) Maintenance (see 3. 4. 1. 8).
- (l) Parts identification (see 3. 4. 1. 9).
- (m) Drawings (see 3. 4. 1. 10 and 3. 4. 2. 4. 5. 4).
- (n) Memorandum pages (see 3. 4. 1. 11).

Note. - Although these requirements are directly applicable to instruction books covering specific equipment, they shall be followed as closely as possible for instruction books covering systems, such as engineering piping systems. When an instruction book covers a system or an equipment composed of several distinct units (for example, a generating set consisting of a diesel engine, a generator, a voltage regulator, and a controller), it may be desirable to arrange the book in major divisions, each covering one unit. If so, the major divisions may be arranged by sub-divisions, each corresponding to the requirements herein.

3. 4. 1. 1 General data. - This division shall contain data such as the following:

- (a) Safety notice (where high voltages or special hazards are involved) (see figure 9).
- (b) Component list containing:
  - Description of item.
  - Navy type designation.
  - Standard Navy stock number.
  - Dimensions.
  - Weight (with or without packing).
- (c) Input power requirements and heat dissipation.
- (d) Salient design characteristics.
- (e) Electron tube complement.
- (f) Serial number (if appropriate).

3. 4. 1. 2 Introduction. - This division shall include a general description of the equipment; explain briefly what it is, where it is used, and what it will do, also all information of a general character applicable to the complete equipment. When the text contains technical terms or terms not commonly used, definitions shall be included.

3. 4. 1. 3 Detailed description. - This division shall contain a complete detailed description of component assemblies and accessories which comprise the complete equipment; for example, in the case of a ship's service turbine generator set, the turbine, the gear, the generator, the exciter, and the voltage regulator. Allowable clearances, temperatures or tolerances shall be shown in tabular form.

3. 4. 1. 4 Installation instructions. - This division shall contain methods of installation, alignment, precautions, mounting instructions, recommendations regarding shielding, grounding or bonding.

3. 4. 1. 5 Adjustment and tests. - This division shall contain instructions for the adjustment and test of the system and its major components upon initial installation or under other conditions such as after major overhaul where complete system readjustment may be required.

3. 4. 1. 6 Principles of operation. - This division shall contain a brief resume of the principles of operation together with such illustrations, sketches, schematic piping diagrams and schematic wiring diagrams to convey an understanding of the function and operation of the equipment. Descriptions of components and assemblies using electron tubes should provide an explanation of the electronic circuits. A preferred method of describing electronic circuits is to present the description in sections, such as amplifier features, power circuits, main audio transmission path and mechanical arrangements. Theory of operation should be included where unusual or unconventional circuits or techniques are involved.

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3. 4. 1. 7 Operating instructions. - This division shall contain simple, brief and effective instructions, including normal routines and precautions to be observed in starting, operating, and shutting-down the equipment. Where operations are to be performed in specified sequence, step-by-step procedure shall be used. Operations shall be numbered in the order in which they are to be performed. Operating data which is frequently referred to in operating the equipment shall be included in this division. Tables and charts shall be used for the presentation of these instructions where varying operating conditions are encountered.

3. 4. 1. 8 Maintenance instructions. -

3. 4. 1. 8. 1 Preventative maintenance. - This division shall cover all maintenance procedures, inspection and routine adjustments which should be performed periodically and regularly for the purpose of preventing failure or impairment of equipment. Included in this division shall be routine maintenance check charts containing the following:

- (a) A tabulation of periodic routine mechanical and electrical tests and checks which should be accomplished regularly to insure continuity of service at peak performance.
- (b) Arrangement of the table shall be such as to indicate what is to be done, when it is to be done and how to do it.
- (c) Emphasis shall be placed upon the test facilities which may be incorporated in the various components.
- (d) Instructions shall be provided for the care, inspection and cleaning of all pertinent parts.
- (e) Instructions on lubrication shall be provided as applicable, preferably in chart form. They shall include information regarding lubrication recommended by the manufacturer, the type of lubricant to be used, together with specific time periods. Lubricants shall be described by Military specification numbers where applicable and by commercial designations.
- (f) Instructions shall be included stressing the importance of properly maintaining any safety devices, interlocks, provided to prevent damage to equipment or injury to personnel.

3. 4. 1. 8. 2 Corrective maintenance. - This division shall cover all information necessary to permit a technician to locate trouble and to make repairs or adjustments to each component, assembly or subassembly of the equipment. Included in this division shall be the following:

- (a) Trouble shooting guides for the localization of faults giving possible sources of trouble, the symptoms, probable cause, and instructions for remedying the faults.
- (b) Complete instructions on signal tracing for electric and electronic circuits, use of test instruments and other common servicing techniques.
- (c) Ample illustrations, photographs, exploded views giving details of mechanical assemblies, and simplified schematic diagram of the electric circuits. Illustrations contained in other divisions may be used and referred to under this division without duplicating them.
- (d) Voltage and resistance diagrams or tables for each electronic assembly showing normal voltages (with and without audio signal) and resistances as measured at the terminals of each tube socket and at other significant points in the circuit.

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3.5.1.1 General data. - This division shall contain data such as the following:

- (a) Safety notice (where high voltages or special hazards are involved). (See figure 9.)
- (b) Component list containing:
  - Description of item.
  - Navy type designation.
  - Standard Navy stock number.
  - Dimensions.
  - Weight (with or without packing).
- (c) Input power requirements and heat dissipation.
- (d) Salient design characteristics.
- (e) Electron tube complement.
- (f) Serial number (if appropriate).

3.5.1.2 Detailed description. - This division shall contain a complete detailed description of component assemblies and accessories which comprise the complete equipment; for example, in the case of a ship's service turbine generator set, the turbine, the gear, the generator, the exciter, and the voltage regulator. Allowable clearances, temperatures or tolerances, shall be shown in tabular form.

3.5.1.3 Installation instructions. - This division shall contain methods of installation, alignment, precautions, mounting instructions, recommendations regarding shielding, grounding or bonding.

3.5.1.4 Adjustment and tests. - This division shall contain instructions for the adjustment and test of the system and its major components upon initial installation or under other conditions such as after major overhaul where complete system readjustment may be required.

3.5.1.5 Operating instructions. - This division shall contain simple, brief and effective instructions, including normal routines and precautions to be observed in starting, operating, and shutting-down the equipment. Where operations are to be performed in specified sequence, step-by-step procedure shall be used. Operations shall be numbered in the order in which they are to be performed. Operating data which is frequently referred to in operating the equipment shall be included in this division. Tables and charts shall be used for the presentation of these instructions where varying operating conditions are encountered.

3.5.1.6 Maintenance. - This division shall cover all maintenance procedures and routine adjustments which should be performed periodically, as well as instructions for disassembly and replacement of worn or damaged parts. Instructions on lubrication shall be provided as applicable, preferably in chart form, and shall include the type of lubrication recommended by the manufacturer, together with specific time periods. Lubricants shall be described by Military specification numbers, where applicable and by commercial designations. Maintenance instructions shall cover the use of special tools.

3.5.1.7 Parts identification. - This division shall contain identification data covering all repair parts (parts and assemblies which are wearable or expendable during normal repair) to facilitate ready identification of parts for replacement and ordering purposes.

3.5.1.7.1 Parts list. - Parts shall be listed as follows:

- (a) Name of part.
- (b) Number required.
- (c) Actual manufacturer's name and service part number.
- (d) Standard Navy Stock Number assigned in accordance with Specification MIL-R-15137.